

CALTRANS 2000 VA PROGRAM

Contents:

FHWA Attachment 1, Value Engineering Study Summary Report	1
Projects Studied and Construction Estimate	3
Study Costs	5
Summary of Recommendations, Accepted and Conditionally Accepted	7
Summary of Study Results.....	11
Accepted Recommendation.....	14
Conditionally Accepted Recommendations.....	23

FHWA VALUE ENGINEERING STUDY SUMMARY REPORT

Division/State: California

Fiscal Year: 2000

1. Number of VE studies completed this year.

In-house	Consultant	Total
4	17	21

2. Cost of performing the VE studies completed this year.

In-house	Consultant	Administrative	Total
\$435,175	\$451,268	\$550,000	\$1,436,443

3. Estimated construction costs of projects studied.

In-house	Consultant	Total
\$135,092,000	\$1,285,289,000	\$1,420,381,000

4. Number & Value of VE *All Recommendations* proposed this year.

	In-House Led	Consultant Led
Cost Savings	\$82,126,198	\$620,694,126
Cost Increases	-\$5,316,959	-\$259,762,046
No. Recommendations	32	201

5. Number & Value of *Approved & Conditionally Approved* VE recommendations (including carryover projects from other years).

Approved

	In-House Led	Consultant Led
Cost Savings	10,300,000	\$55,573,428
Cost Increases		-\$107,998,360
No. Recommendations	13	63

Conditionally Approved

	In-House Led	Consultant Led
Cost Savings	\$7,000,000	\$2,074,906
Cost Increases		-\$982,560
No. Recommendations	3	11

FHWA VALUE ENGINEERING STUDY SUMMARY REPORT

6. Life-cycle cost (cost avoidance) savings from VE studies.

Accepted Recommendations

	In-House Led	Consultant Led
Initial Savings		
Subsequent Savings		
Highway User Savings	\$0	\$308,958,239
Total (NPV) LCC Savings		

Conditionally Accepted Recommendations

	In-House Led	Consultant Led
Initial Savings		
Subsequent Savings		
Highway User Savings		\$1,470,340
Total (NPV) LCC Savings		

7. Total VE-related training costs (include an estimate of salaries of persons attending, travel cost and local incidental costs \$ 161,752).

8. Number of employees trained in VE during fiscal year.

a. FHWA 1.

b. State and Others 47.

9. Number of construction VECP's submitted 17.

10. Number of construction VECP's approved 15.

11. Savings from approved construction VECPs.

In-house Value	1,275,002
Contractor Value	1,275,002
Total	2,550,005

Caltrans 2000 VA Program Projects Studied and Construction Estimate

\$8,910,000	2-325900	PLU-70- 41.5/ 46.3	Quincy Rehab ROADWAYREHAB &
\$8,910,000			<i>Total Construct Estimate for Study</i>
\$6,800,000	2-238020	SHA-299-/273/44	Redding Cuplet
\$6,800,000			<i>Total Construct Estimate for Study</i>
\$21,792,000	3-441630	SAC-50- 12.3/ 23.1	HOV Lanes, Sunrise Blvd to El Dorado
\$21,792,000			<i>Total Construct Estimate for Study</i>
\$23,300,000	3-388000	YOL-50- 1.2/ 1.4	WIDEN OC & REVISE E/B RAMPS - 6 LNS
\$23,300,000			<i>Total Construct Estimate for Study</i>
\$64,500,000	3-333800	PLA-65-R12.2/R23.8	Lincon Bypass
\$64,500,000			<i>Total Construct Estimate for Study</i>
\$29,617,000	3-366101	NEV-80- 20.3/ 23.6	"PCC OL, WIDEN MED, REHAB BR
\$2,900,000	3-0A990K	NEV-80- 13.2/	REPLACE BRIDGE
\$23,055,000	3-408101	NEV-80- 23.6/ 28.1	"CRACK, SEAT AND PCC OVERLAY
\$55,572,000			<i>Total Construct Estimate for Study</i>
\$21,130,000	3-0A6001	PLA-80- 14.3/ 40	OVERLAY
\$3,000,000	3-44140K	PLA-80- 33/ 69.7	DRAINAGE CORRECTION & MAINTENAN
\$1,100,000	3-352710	PLA-80- 43.5/ 54.6	IMPROVE CHAIN CONTROL AREA & LIC
\$25,230,000			<i>Total Construct Estimate for Study</i>
\$61,000,000	3-3A200K	PLA-80- 54.6/ 68.5	PCC OVERLAY AND RAMP REHAB
\$75,000,000	3-0A630K	NEV-80-R2.5/ 15.5	MICROSEAL EXISTING AC
\$1,625,000	3-440901	PLA-80- 28.6/ 29.3	RAISE 2 STRUCTURES FOR CLEARANC
\$137,625,000			<i>Total Construct Estimate for Study</i>
\$22,572,000	3-368501	YOL-84- 18.4/R21.8	Widen Jefferson Blvd.
\$22,572,000			<i>Total Construct Estimate for Study</i>
\$62,575,000	4-228770	CC -4- 22.2/ 23.8	WDN & RECONSTR IC (RAILROAD AV
\$62,575,000			<i>Total Construct Estimate for Study</i>
\$41,220,000	4-120611	NAP-29- 12.5/ 13.5	CONSTRUCT INTERCHANGE
\$41,220,000			<i>Total Construct Estimate for Study</i>
\$28,665,000	4-291001	SF -101- 4.7/ 5.1	CONST CENTRAL FWY REPLACEMENT
\$6,640,000	4-291301	SF -101- 4.7/ 5.1	SEISMIC RETROFIT
\$35,305,000			<i>Total Construct Estimate for Study</i>
\$28,800,000	4-253801	NAP-121-R5/R5.5	MAXWELL BRIDGE REPLACEMENT
\$28,800,000			<i>Total Construct Estimate for Study</i>
\$59,653,000	4-439700	SCL-237- 8/ 9.6	MODIFY RTE 237/880 IC (STAGE C)
\$59,653,000			<i>Total Construct Estimate for Study</i>

Caltrans 2000 VA Program Projects Studied and Construction Estimate

\$4,000,000	4-23810K ALA-580-R9.3/ 10.1 RECONSTRUCT INTERCHANGE
\$4,000,000	<i>Total Construct Estimate for Study</i>
\$49,635,000	6-350700 FRE-99-R1/ 7.1 4F TO 6F
\$49,635,000	<i>Total Construct Estimate for Study</i>
\$52,069,000	7-106951 LA -10- 28/ 31.2 CNSTRCT ONE HOV LN IN EA
\$52,069,000	<i>Total Construct Estimate for Study</i>
\$135,019,000	11-030100 SD -5-R30/R34.5 "CONTIGUOUS FWY,DIR CONN,TRK
\$135,019,000	<i>Total Construct Estimate for Study</i>
\$34,491,000	11-068001 IMP-7- 1.2/ 6.7 CONSTRUCT 4 LANE HIGHWAY
\$34,491,000	<i>Total Construct Estimate for Study</i>
\$333,782,000	11-06480K SD -15-M11.4/R31.5 CONST HOV/MANAGED LANES
\$333,782,000	<i>Total Construct Estimate for Study</i>
\$217,531,000	11-093160 SD -905- 5.7/ 12 CONST 6-LANE FWY
\$217,531,000	<i>Total Construct Estimate for Study</i>

Caltrans 2000 VA Program Study Costs

Inhouse Team Size	INHOUSE COSTS			\$65 / Hr		Program Administration Costs	Total Study Costs
	Inhouse Days	Inhouse Report Hrs.	Inhouse Expenses	Sum Inhouse Study Costs	Consultant Study Costs		
99 10	Consultant 6		49 2-325900 \$1,000	PLU-70- 41.5/ 46.3 \$32,200	Quincy Rehab \$26,030	ROADWAY REHAB & \$26,190	\$84,420
2000 7	Inhouse e 6	100	2-238020 \$750	SHA-299-/273/44 \$29,090	Redding Cuplet	\$26,190	\$55,280
99 8	Consultant 5		83 3-441630 \$20,800	SAC-50- 12.3/ 23.1 \$4,999	HOV Lanes, Sunrise Blvd to El Dorado	\$26,190	\$51,990
2000 4	Consultant 5	120	119 3-388000 \$18,200	YOL-50- 1.2/ 1.4 \$15,881	WIDEN OC & REVISE E/B RAMPS - 6 LNS	\$26,190	\$60,271
99 11	Inhouse e 5	10	90 3-333800 \$29,250	PLA-65-R12.2/R23.8 \$9,766	Lincon Bypass	\$26,190	\$65,206
99 8	Consultant 5		41 3-366101 \$20,800	NEV-80- 20.3/ 23.6 \$23,464	"PCC OL, WIDEN MED, REHAB BR	\$26,190	\$70,454
99 6	Consultant 5		40 3-0A6001 \$15,600	PLA-80- 14.3/ 40 \$21,679	OVERLAY	\$26,190	\$63,469
99 8	Consultant 5		39 3-3A200K \$20,800	PLA-80- 54.6/ 68.5 \$16,969	PCC OVERLAY AND RAMP REHAB	\$26,190	\$63,960
99C 8	Inhouse e 5	65	ca3 3-368501 \$25,025	YOL-84- 18.4/R21.8 \$26,190	Widen Jefferson Blvd.	\$26,190	\$51,215
2000 9	Consultant 6		84 4-228770 \$28,080	CC -4- 22.2/ 23.8 \$35,304	WDN & RECONSTR IC (RAILROAD AV IC)	\$26,190	\$89,575
99C 6	Inhouse e 6		23 4-120611 \$1,000	NAP-29- 12.5/ 13.5 \$19,720	CONSTRUCT INTERCHANGE	\$26,190	\$62,910

Caltrans 2000 VA Program Study Costs

Inhouse Team Size			INHOUSE COSTS		\$65 / Hr			
	Inhouse Days	Inhouse Report Hrs.	Inhouse Expenses	Sum Inhouse Study Costs	Consultant Study Costs	Program Administration Costs	Total Study Costs	
2000 6	Consultant 5.5		32 4-291001 \$750	SF -101- 4.7/ 5.1 \$17,910	CONST CENTRAL FWY REPLACEMENT \$28,179		\$26,190	\$72,279
2000 7	Consultant 5		116 4-253801	NAP-121-R5/R5.5 \$18,200	MAXWELL BRIDGE REPLACEMENT \$41,003		\$26,190	\$85,393
2000	Consultant		VHA 4-439700	SCL-237- 8/ 9.6	MODIFY RTE 237/880 I/C (STAGE C) \$25,001		\$26,190	\$51,191
99 6	Consultant 5		36 4-23810K	ALA-580-R9.3/ 10.1	RECONSTRUCT INTERCHANGE \$19,783		\$26,190	\$61,574
2000 3	Consultant 5.5		118 6-350700	FRE-99-R1/ 7.1 4F TO 6F \$8,580			\$26,190	\$59,931
99 6	Consultant 5		27 7-106951	LA -10- 28/ 31.2	CNSTRCT ONE HOV LN IN EA DIRECTION \$17,257		\$26,190	\$59,047
2000 12	Consultant 5.5		133 11-030100	SD -5-R30/R34.5	"CONTIGUOUS FWY,DIR CONN,TRK		\$26,190	\$62,010
2000 7	Consultant 6		122 11-068001	IMP-7- 1.2/ 6.7	CONSTRUCT 4 LANE HIGHWAY \$49,993		\$26,190	\$98,023
2000 6	Consultant 6		79 11-06480K	SD -15-M11.4/R31.5	CONST HOV/MANAGED LANES \$39,399		\$26,190	\$84,309
2000 7	Consultant 6		108 11-093160	SD -905- 5.7/ 12	CONST 6-LANE FWY \$34,400		\$26,190	\$83,931
TOTALS				\$435,175	\$451,268		\$550,000	\$1,436,443

Caltrans 2000 VA Program
Summary Recommendations, Accepted
and Conditionally Accepted

#	Const. Positive	sum Const
	Const Negative	
#	LCC Positive	sum LCC
	LCC Negative	

Recommendations

Accepted

Conditionally Accepted

49	99	Consultant	2-325900	PLU-70-	41.5/ 46.3	Quincy Rehab ROADWAY REHAB	HA22	\$8,910,000
18			40,400		-4,666,600	16		
			-4,707,000					
						16		

2000	Inhouse	2-238020	SHA-299-/273/44	Redding Cuplet		\$6,800,000		
11			1,200,000		1,200,000	8		
						8		

83	99	Consultant	3-441630	SAC-50-	12.3/ 23.1	HOV Lanes, Sunrise Blvd to EI	HB5	\$21,792,000
12			3,164,500		2,524,500	4		
			-640,000					
						4		

119	2000	Consultant	3-388000	YOL-50-	1.2/ 1.4	WIDEN OC & REVISE E/B RAMPS -	HE11	\$23,300,000
9			17,354,001.2		105,699,201	2		
			-11,654,800					
						2		

90	99	Inhouse	3-333800	PLA-65-R12.2/R23.8	Lincon Bypass	HE14	\$64,500,000	
8			37,929,198		32,612,239	2		
			-5,316,959					
						2		

41	99	Consultant	3-366101	NEV-80-	20.3/ 23.6	"PCC OL, WIDEN MED, REHAB	HA22	\$55,572,000
21			9,921,910		3,241,735	10		
			-6,680,175					
						10		

40	99	Consultant	3-0A6001	PLA-80-	14.3/ 40	OVERLAY	HA22	\$25,230,000
7			409,000		-30,752,112	2		
			-31,161,112					
						2		

Caltrans 2000 VA Program
Summary Recommendations, Accepted
and Conditionally Accepted

#	Const. Positive	sum Const
	Const Negative	
#	LCC Positive	sum LCC
	LCC Negative	

Recommendations

Accepted

Conditionally Accepted

39	99	Consultant	3-3A200K	PLA-80-	54.6/ 68.5	PCC OVERLAY AND RAMP	HA22	\$137,625,000
6	19,380,000	-5,061,410	2	-2,778,769	-2,778,769			
	-24,441,410							
			1	504,000	504,000			

ca3	99C	Inhouse	3-368501	YOL-84-	18.4/R21.8	Widen Jefferson Blvd.	HE13	\$22,572,000
3	9,400,000	9,400,000	2	2,400,000	2,400,000	1	7,000,000	7,000,000

84	2000	Consultant	4-228770	CC -4-	22.2/ 23.8	WDN & RECONSTR IC (RAILROAD	HB4C	\$62,575,000
20	14,703,976	5,047,073	8	4,864,628	-85,872	1	213,900	213,900
	-9,656,903			-4,950,500				

23	99C	Inhouse	4-120611	NAP-29-	12.5/ 13.5	CONSTRUCT INTERCHANGE	HE14	\$41,220,000
10		33,597,000		33,597,000	1	2,000,000		2,000,000

32 2000		Consultant	4-291001	SF -101-	4.7/ 5.1	CONST CENTRAL FWY	HA23	\$35,305,000	
17	163,487,000		133,931,000	1	10,317,000	10,317,000			
	-29,556,000								

116	2000	Consultant	4-253801	NAP-121-R5/R5.5	MAXWELL BRIDGE	HA21	\$28,800,000		
6	6,009,000	6,009,000	2	287,000	-813,000				
				-1,100,000					

VHA 2000		Consultant	4-439700	SCL-237-	8/ 9.6	MODIFY RTE 237/880 I/C (STAGE C)	HE11	\$59,653,000
12	1,330,000	1,330,000				1	670,000	670,000
2	6,100,000	6,100,000						

Caltrans 2000 VA Program
Summary Recommendations, Accepted
and Conditionally Accepted

#	Const. Positive	sum Const
	Const Negative	
#	LCC Positive	sum LCC
	LCC Negative	

Recommendations

Accepted

Conditionally Accepted

36	99	Consultant	4-23810K	ALA-580-R9.3/ 10.1	RECONSTRUCT INTERCHANGE	HE12	\$4,000,000		
9		28,914,000	28,914,000	1	22,294,000	22,294,000			
118	2000	Consultant	6-350700	FRE-99-R1/ 7.1	4F TO 6F	HE13	\$49,635,000		
4		2,470,784	1,477,500	2	1,108,800	461,978			
		-993,284			-646,822				
27	99	Consultant	7-106951	LA -10- 28/ 31.2	CNSTRCT ONE HOV LN IN EA	HB5	\$52,069,000		
18		9,678,062	9,678,062	1	500,000	500,000			
133	2000	Consultant	11-030100	SD -5-R30/R34.5	"CONTIGUOUS FWY,DIR	HE13	\$135,019,000		
9		23,268,000	23,268,000	3	7,000,000	7,000,000	2		
122	2000	Consultant	11-068001	IMP-7- 1.2/ 6.7	CONSTRUCT 4 LANE HIGHWAY	HE14	\$34,491,000		
8		1,936,204	461,774	2	500,000	500,000	1	1,136,606	1,136,606
		-1,474,430							
79	2000	Consultant	11-06480K	SD -15-M11.4/R31.5	CONST HOV/MANAGED	HB4C	\$333,782,000		
13		218,627,289	87,990,357	2	3,115,000	-76,885,000			
		-130,636,932			-80,000,000				
4		263,893,500	41,502,050	1	254,726,000	254,726,000			
		-222,391,450							
108	2000	Consultant	11-093160	SD -905- 5.7/ 12	CONST 6-LANE FWY	HE14	\$217,531,000		
12			-8,160,000	5		-2,053,000	2	-244,000	-244,000

Caltrans 2000 VA Program
Summary Recommendations, Accepted
and Conditionally Accepted

#	Const. Positive	sum Const
	Const Negative	
#	LCC Positive	sum LCC
	LCC Negative	

Recommendations

Accepted

Conditionally Accepted

TOTALS

Recommendations

Accepted

Conditionally Accepted

233	\$437,741,319
31	\$211,504,071

76	\$42,124,932
13	\$308,958,239

14	\$8,092,346
1	\$1,470,340

Caltrans 2000 VA Program Summary of Study Results

#	Const \$
#	LCC \$

49	99	Consultant	2-325900	PLU-70- 41.5/ 46.3	Quincy Rehab ROADWAY REHAB	HA22	\$8,910,000
<i>Recommendations</i>		<i>Accepted</i>		<i>Conditionally Accepted</i>		initial plus lcc	
18	-\$4,666,600	16	-4,604,000	2	-\$62,600	acceptance rate	0.89
						percent of project	-0.52
2000	Inhouse	2-238020	SHA-299-/273/44	Redding Cuplet			\$6,800,000
<i>Recommendations</i>		<i>Accepted</i>		<i>Conditionally Accepted</i>		initial plus lcc	
11	\$1,200,000		1,200,000	2		acceptance rate	0.73
						percent of project	0.18
83	99	Consultant	3-441630	SAC-50- 12.3/ 23.1	HOV Lanes, Sunrise Blvd to El	HB5	\$21,792,000
<i>Recommendations</i>		<i>Accepted</i>		<i>Conditionally Accepted</i>		initial plus lcc	
12	\$2,524,500	4	2,175,000	1	\$14,000	acceptance rate	0.33
						percent of project	0.10
119	2000	Consultant	3-388000	YOL-50- 1.2/ 1.4	WIDEN OC & REVISE E/B RAMPS -	HE11	\$23,300,000
<i>Recommendations</i>		<i>Accepted</i>		<i>Conditionally Accepted</i>		initial plus lcc	
9	105,699,201	2	290,000			acceptance rate	0.22
						percent of project	0.01
90	99	Inhouse	3-333800	PLA-65-R12.2/R23.8	Lincon Bypass	HE14	\$64,500,000
<i>Recommendations</i>		<i>Accepted</i>		<i>Conditionally Accepted</i>		initial plus lcc	
8	\$32,612,239		4,700,000			acceptance rate	0.25
						percent of project	0.07
41	99	Consultant	3-366101	NEV-80- 20.3/ 23.6	"PCC OL, WIDEN MED, REHAB	HA22	\$55,572,000
<i>Recommendations</i>		<i>Accepted</i>		<i>Conditionally Accepted</i>		initial plus lcc	
21	\$3,241,735	10	-3,042,110			acceptance rate	0.48
20	\$50,209,751	10	27,872,285			percent of project	0.45
40	99	Consultant	3-0A6001	PLA-80- 14.3/ 40	OVERLAY	HA22	\$25,230,000
<i>Recommendations</i>		<i>Accepted</i>		<i>Conditionally Accepted</i>		initial plus lcc	
7	\$30,752,112	2	-5,701,159	1	-\$635,560	acceptance rate	0.29
5	113,692,270	1	25,855,954	1	\$1,470,340	percent of project	0.80
39	99	Consultant	3-3A200K	PLA-80- 54.6/ 68.5	PCC OVERLAY AND RAMP	HA22	\$137,625,000
<i>Recommendations</i>		<i>Accepted</i>		<i>Conditionally Accepted</i>		initial plus lcc	
6	-\$5,061,410	2	-2,778,769			acceptance rate	0.33
		1	504,000			percent of project	-0.02

page 12

Caltrans 2000 VA Program Summary of Study Results

#	Const \$
#	LCC \$

27	99	Consultant	7-106951	LA -10- 28/ 31.2	CNSTRCT ONE HOV LN IN EA	HB5	\$52,069,000
<i>Recommendations</i>		<i>Accepted</i>		<i>Conditionally Accepted</i>		initial plus lcc	
18	\$9,678,062	1	500,000			acceptance rate	\$500,000
						percent of project	0.06
							0.01
133	2000	Consultant	11-030100	SD -5-R30/R34.5	"CONTIGUOUS FWY,DIR	HE13	\$135,019,000
<i>Recommendations</i>		<i>Accepted</i>		<i>Conditionally Accepted</i>		initial plus lcc	
9	\$23,268,000	3	7,000,000	2		acceptance rate	\$7,000,000
						percent of project	0.33
							0.05
122	2000	Consultant	11-068001	IMP-7- 1.2/ 6.7	CONSTRUCT 4 LANE HIGHWAY	HE14	\$34,491,000
<i>Recommendations</i>		<i>Accepted</i>		<i>Conditionally Accepted</i>		initial plus lcc	
8	\$461,774	2	500,000	1	\$1,136,606	acceptance rate	\$500,000
						percent of project	0.25
							0.01
79	2000	Consultant	11-06480K	SD -15-M11.4/R31.5	CONST HOV/MANAGED	HB4C	\$333,782,000
<i>Recommendations</i>		<i>Accepted</i>		<i>Conditionally Accepted</i>		initial plus lcc	
13	\$87,990,357	2	-76,885,000			acceptance rate	\$177,841,000
4	\$41,502,050	1	254,726,000			percent of project	0.15
							0.53
108	2000	Consultant	11-093160	SD -905- 5.7/ 12	CONST 6-LANE FWY	HE14	\$217,531,000
<i>Recommendations</i>		<i>Accepted</i>		<i>Conditionally Accepted</i>		initial plus lcc	
12	-\$8,160,000	5	-2,053,000	2	-\$244,000	acceptance rate	-\$2,053,000
						percent of project	0.42
							-0.01

TOTALS

<i>Recommendations</i>		<i>Accepted</i>		<i>Conditionally Accepted</i>		
233	\$437,741,319	76	\$42,124,932	14	\$8,092,346	Construction
31	\$211,504,071	13	308,958,239	1	\$1,470,340	Life Cycle Costs

Caltrans 2000 VA Program Accepted Recommendations

Rec No	PROJECT	CONST \$	LCC \$
1	2-325900 PLU-70- 41.5/ 46.3 Quincy Rehab ROADWAY REHAB & Construct Class 1 Bike Lane Parallel to Highway <i>This is budgeted for in Cost Estimate and does not represent a cost increase to the project. This alternative resolved the issue how to best do the bike lane. The MBGR suggested between the shoulder and the bike lane is not necessary and should be removed</i>		
5	2-325900 PLU-70- 41.5/ 46.3 Quincy Rehab ROADWAY REHAB & Increase Design of Structural Section for 20-Year Life <i>Caltrans Design will continue to develop and refine the cost for this item. Asphalt rubber should be considered use to reduce cost. User delay and community business impact cost need to be considered over the project life. Added design time will be required.. Sidewalks should be modified to optimize functionality.</i>	-\$191,000	
6	2-325900 PLU-70- 41.5/ 46.3 Quincy Rehab ROADWAY REHAB & Modify Court Street Intersection <i>Modify alternative to maintain access from SR70 to Court Street while allowing right turn only from Court Street to SR70.</i>	-\$27,000	
10	2-325900 PLU-70- 41.5/ 46.3 Quincy Rehab ROADWAY REHAB & Extend Grinding/Rehabilitation to Cross Streets of Couplet <i>Work necessary to conform properly at cross streets will be done. This should be less work than suggested in the VA Alternative. Cost increase should be less than indicated.</i>	-\$134,000	
11	2-325900 PLU-70- 41.5/ 46.3 Quincy Rehab ROADWAY REHAB & Add Curb and Gutter over Cemetery Hill <i>"Design team should review concept for a creative, more cost effective option. Need to reduce erosion. Lower priority than other additive items."</i>	-\$1,679,000	
12	2-325900 PLU-70- 41.5/ 46.3 Quincy Rehab ROADWAY REHAB & Add Sidewalk over Cemetery Hill <i>"Design team should review concept for a creative, more cost effective option. Lower priority than other additive items. Caltrans has requested TEA funding for sidewalk. Possible A/C section should be considered"</i>	-\$296,000	
13	2-325900 PLU-70- 41.5/ 46.3 Quincy Rehab ROADWAY REHAB & Improve Cut Slope and Revegetate to Control Erosion <i>Caltrans Design needs to refine this to reduce cost. Spot treatment may be possible as opposed to extensive re vegetation and work</i>	-\$665,000	
14	2-325900 PLU-70- 41.5/ 46.3 Quincy Rehab ROADWAY REHAB & Add Subgrade Drainage <i>Caltrans Design needs to finalize quantity and locations</i>	-\$111,000	
15	2-325900 PLU-70- 41.5/ 46.3 Quincy Rehab ROADWAY REHAB & Add Brow Ditch at Top of Cut Slope <i>Caltrans Design needs to see if there is a way to do selectively and more cost effectively.</i>	-\$126,000	

Caltrans 2000 VA Program Accepted Recommendations

Rec No	PROJECT	CONST \$	LCC \$
16	2-325900 PLU-70- 41.5/ 46.3 Quincy Rehab ROADWAY REHAB & Provide Curb and Gutter from Fairgrounds to Mill Creek Road <i>"Could have some CT TEA investment, but may require local TEA money to fund. This should have higher priority than Cemetery Hill section. Drainage cost s in the PSSR estimate"</i>	-\$364,000	
17	2-325900 PLU-70- 41.5/ 46.3 Quincy Rehab ROADWAY REHAB & Provide Sidewalk from Fairgrounds to Mill Road <i>Probably basis for County application for TEA funds. Will do if County gets funding</i>	-\$276,000	
18	2-325900 PLU-70- 41.5/ 46.3 Quincy Rehab ROADWAY REHAB & Construct Center Medians at Select Locations <i>"Size and location of median island need to be finalized and agreed to with Caltrans and County. Three medians are now projected, this should reduce cost as the VA Team estimate is based on 6 medians. Mountable concrete curb design will be required. This may impact plantings (trees may not be possible). Design should consider longevity needs – higher cement content, air entraining, etc."</i>	-\$431,000	
19	2-325900 PLU-70- 41.5/ 46.3 Quincy Rehab ROADWAY REHAB & Add New Road – 1st Street to Lee <i>Right-of-way negotiations underway. R/W cost needs to be added to the estimate. Traffic branch needs to verify traffic signal need. County will need to get STIPP funds.</i>	-\$213,000	
20	2-325900 PLU-70- 41.5/ 46.3 Quincy Rehab ROADWAY REHAB & Close East End of Lee Road <i>Only a small portion will require state funds. This is primarily a local issue.</i>	-\$31,000	
22	2-325900 PLU-70- 41.5/ 46.3 Quincy Rehab ROADWAY REHAB & Provide Creative Signing to Reduce Sign Clutter <i>Caltrans Design needs to study this and incorporate appropriate measures</i>	-\$60,000	
1	2-325900 PLU-70- 41.5/ 46.3 Quincy Rehab ROADWAY REHAB & Construct Class 1 Bike Lane Parallel to Highway <i>This is budgeted for in Cost Estimate and does not represent a cost increase to the project. This alternative resolved the issue how to best do the bike lane. The MBGR suggested between the shoulder and the bike lane is not necessary and should be removed</i>		
DS#1	2-238020 SHA-299-/273/44 Redding Cuplet Redefinition of Purpose and need		
DS#2	2-238020 SHA-299-/273/44 Redding Cuplet Elimination of Alternatives D, E, & F	\$1,200,000	

Caltrans 2000 VA Program Accepted Recommendations

Rec No	PROJECT	CONST \$	LCC \$
1	2-238020 SHA-299-/273/44 Redding Cuplet Add 3rd lane on ED 299 between East Street and Auditorium Drive (widen Continental Street undercrossing and EB 299 for standard widths)		
4	2-238020 SHA-299-/273/44 Redding Cuplet Add 1 SB North Market right turn only lane between Trinity and Eureka Way		
5	2-238020 SHA-299-/273/44 Redding Cuplet Add 1 SB North Market right turn only lane between Trinity and Eureka Way		
6	2-238020 SHA-299-/273/44 Redding Cuplet Tehama EB Conterflow just north of mall between California and Market		
7	2-238020 SHA-299-/273/44 Redding Cuplet Modify/enhance existing traffic signals system utilizing state-of-the-art technology to optimize operation		
8	2-238020 SHA-299-/273/44 Redding Cuplet Provide pedestrian enhancement along Market Street		
M-1*	3-441630 SAC-50- 12.3/ 23.1 HOV Lanes, Sunrise Blvd to El Dorado Combine all Four Projects <i>Bids will be combined under one contract.</i>	\$2,175,000	
S-10*	3-441630 SAC-50- 12.3/ 23.1 HOV Lanes, Sunrise Blvd to El Dorado Relocate Underground Utilities <i>Avoids damage to utilities during construction.</i>		
S-1*	3-441630 SAC-50- 12.3/ 23.1 HOV Lanes, Sunrise Blvd to El Dorado Close Deck at White Rock Road <i>Added to project scope.</i>		
TKR-9*	3-441630 SAC-50- 12.3/ 23.1 HOV Lanes, Sunrise Blvd to El Dorado Detour to White Rock Road <i>"Reduces temporary railing, simplifies construction."</i>		

Caltrans 2000 VA Program Accepted Recommendations

Rec No	PROJECT	CONST \$	LCC \$
1.5	3-388000 YOL-50- 1.2/ 1.4 WIDEN OC & REVISE E/B RAMPS - 6	\$460,000	
4.0	3-388000 YOL-50- 1.2/ 1.4 WIDEN OC & REVISE E/B RAMPS - 6	-\$170,000	
BR-4	3-333800 PLA-65-R12.2/R23.8 Lincon Bypass	\$500,000	
<p>Lower Grade of Lincoln Bypass (BR-4). The original concept places the roadway approximately three feet above grade throughout the new alignment. This alternate would place the roadway on grade for the entire length of the alignment.</p> <p><i>Portions of this alternative may be implemented in limited areas</i></p>			
BR-9	3-333800 PLA-65-R12.2/R23.8 Lincon Bypass	\$4,200,000	
<p>Eliminate Nelson and Riosa Road Improvements (BR-9). The original concept widens existing Nelson Road from two lanes to five lanes, from the intersection of the D-13 alignment to the airport. It also widens existing Riosa Road from two lanes to five lanes from the intersection of the D-13 alignment to the existing "old" Route 65. The work involves construction of a new alignment for a</p> <p><i>Limited improvements will be required at Nelson and Riosa. full widening is not required.</i></p> <p><i>Additional ROW savings offset limited improvements.</i></p>			
1.2	3-366101 NEV-80- 20.3/ 23.6 "PCC OL, WIDEN MED, REHAB BR	\$204,000	\$126,000
Use precast I-girders			
1.3	3-366101 NEV-80- 20.3/ 23.6 "PCC OL, WIDEN MED, REHAB BR	\$456,000	\$224,000
<p>Use precast prestressed bulb T</p> <p><i>Same comments as 1.2</i></p>			
2.1	3-366101 NEV-80- 20.3/ 23.6 "PCC OL, WIDEN MED, REHAB BR	\$0	\$550,000
Install new piers			
2.2	3-366101 NEV-80- 20.3/ 23.6 "PCC OL, WIDEN MED, REHAB BR	\$710,000	\$320,000
Use columns in lieu of pier walls			
5.1	3-366101 NEV-80- 20.3/ 23.6 "PCC OL, WIDEN MED, REHAB BR	\$64,000	\$284,766
Eliminate joints			

Caltrans 2000 VA Program Accepted Recommendations

Rec No	PROJECT	CONST \$	LCC \$
6.1	3-366101 NEV-80- 20.3/ 23.6 "PCC OL, WIDEN MED, REHAB BR Use high performance concrete; Decrease concrete permeability	-\$1,128,000	\$8,426,160
6.2	3-366101 NEV-80- 20.3/ 23.6 "PCC OL, WIDEN MED, REHAB BR Use precast concrete	-\$296,910	\$1,475,910
6.3	3-366101 NEV-80- 20.3/ 23.6 "PCC OL, WIDEN MED, REHAB BR Use de-icing device	-\$260,200	\$2,638,449
7.1	3-366101 NEV-80- 20.3/ 23.6 "PCC OL, WIDEN MED, REHAB BR Increase wearing capacity; use sacrificial overlay. use polyester concrete overlay.	-\$4,309,000	\$7,309,000
8.2	3-366101 NEV-80- 20.3/ 23.6 "PCC OL, WIDEN MED, REHAB BR Use innovative materials	\$1,518,000	\$6,518,000
1.2	3-0A6001 PLA-80- 14.3/ 40 OVERLAY Grind/replace existing AC	-\$5,697,559	\$25,855,954
2.1	3-0A6001 PLA-80- 14.3/ 40 OVERLAY Use fold in place	-\$3,600	
1.3	3-3A200K PLA-80- 54.6/ 68.5 PCC OVERLAY AND RAMP REHAB PCCoverlay include transfers and longitudinal dowels at joints	-\$2,778,769	
3.1	3-3A200K PLA-80- 54.6/ 68.5 PCC OVERLAY AND RAMP REHAB Use Concrete guardrail in lieu of MBGR		\$504,000
2	3-368501 YOL-84- 18.4/R21.8 Widen Jefferson Blvd. Railroad Relocation Alternative: Keep RR Crossing at Stone Blvd. Straighten tracks across jefferson blvd.	\$400,000	

Caltrans 2000 VA Program Accepted Recommendations

Rec No	PROJECT	CONST \$	LCC \$
3	3-368501 YOL-84- 18.4/R21.8 Widen Jefferson Blvd. Two-phase construction to defer widening south of Higgins.	\$2,000,000	
1.2	4-228770 CC -4- 22.2/ 23.8 WDN & RECONSTR IC (RAILROAD AV Use Existing Roadway for Interim Westbound Lanes in lieu of New Roadway	\$1,922,108	
2.0*	4-228770 CC -4- 22.2/ 23.8 WDN & RECONSTR IC (RAILROAD AV Change Profile of Mainline at Harbor Street	\$75,000	
6.0*	4-228770 CC -4- 22.2/ 23.8 WDN & RECONSTR IC (RAILROAD AV Eliminate Pittsburg BART Station Structure Entirely	\$1,430,000	
7.0*	4-228770 CC -4- 22.2/ 23.8 WDN & RECONSTR IC (RAILROAD AV Stage Removal and Construction of Railroad Avenue Overcrossing	-\$1,078,000	
9.0	4-228770 CC -4- 22.2/ 23.8 WDN & RECONSTR IC (RAILROAD AV Skew Harbor Street Overcrossing	-\$3,526,000	
11.0*	4-228770 CC -4- 22.2/ 23.8 WDN & RECONSTR IC (RAILROAD AV Review Structure Estimates (Bridges Only)	\$1,437,520	
16.0	4-228770 CC -4- 22.2/ 23.8 WDN & RECONSTR IC (RAILROAD AV Add Sidewalk to West Side of Railroad Avenue Overcrossing	-\$140,000	
18.0*	4-228770 CC -4- 22.2/ 23.8 WDN & RECONSTR IC (RAILROAD AV Design Stormwater Pump Station for Reliability	-\$206,500	
RE-4c	4-120611 NAP-29- 12.5/ 13.5 CONSTRUCT INTERCHANGE RE-4c: Eliminate slurry wall	\$2,000,000	

Caltrans 2000 VA Program Accepted Recommendations

Rec No	PROJECT	CONST \$	LCC \$
1.1	4-291001 SF -101- 4.7/ 5.1 CONST CENTRAL FWY Touch down on Markett with Octavia improvements	\$10,317,000	
1.0	4-253801 NAP-121-R5/R5.5 MAXWELL BRIDGE REPLACEMENT Dual Bridge	-\$1,100,000	
6.0	4-253801 NAP-121-R5/R5.5 MAXWELL BRIDGE REPLACEMENT Coordinate sequencing of earthwork with flood protection project	\$287,000	
Note	4-23810K ALA-580-R9.3/ 10.1 RECONSTRUCT INTERCHANGE Note: Project deferred 10-15 years until BART alignment- now designed for I-580 median- is finally determined. Total savings:\$22,294,000 with only \$5,000,000 to be spent by the City of Livermore on the MPA (eastbound off-ramp).	\$22,294,000	
3	6-350700 FRE-99-R1/ 7.1 4F TO 6F Construct Temporary Detour in Median <i>Eliminates night work and lane closures Will strengthen PCC pavement sections by allowing longer cure times</i>	-\$646,822	
4	6-350700 FRE-99-R1/ 7.1 4F TO 6F Reduce Height of Soundwalls to 6 Feet <i>Balances noise/visual impacts</i>	\$1,108,800	
CV-8	7-106951 LA -10- 28/ 31.2 CNSTRCT ONE HOV LN IN EA Use Reclaimed Material in lieu of Class 3 Aggregate Base The new CalTrans Standard will be applied	\$500,000	
1.0	11-030100 SD -5-R30/R34.5 "CONTIGUOUS FWY,DIR CONN,TRK Perform Clearing/Grubbing Before Main Contract <i>Revisions were made to the validated cost savings for VA Alternative 1.0, 2.0 and 3.0. The daily estimated overhead savings for VA Alt. 1.0 was reduced from \$30,500 to \$25,000 (eliminating K-rail rates) resulting a net savings of \$5.5 million</i>	\$7,000,000	
2.0	11-030100 SD -5-R30/R34.5 "CONTIGUOUS FWY,DIR CONN,TRK Construct Carmel Mountain Road Structures Concurrent with MSE Wall Foundations <i>VA Alt. 2.0 was considered to be included as part of VA Alt. 1.0, and therefore no additional savings were included for it. Savings for VA Alt. 3.0 were recalculated at \$1.5 million (about 5% of the total cost of the PGR Wall) to better reflect savings for labor rates on permitting the contractor a 18/24 hour work window.</i>		

Caltrans 2000 VA Program Accepted Recommendations

Rec No	PROJECT	CONST \$	LCC \$
3.0	11-030100 SD -5-R30/R34.5 "CONTIGUOUS FWY,DIR CONN,TRK Allow for 18-Hour Construction Window		
7.0	11-068001 IMP-7- 1.2/ 6.7 CONSTRUCT 4 LANE HIGHWAY Combine surface/subsurface drainage <i>Alternative will be pursued. Consultant will be engaged to determine the cost to design; there will be some re-engineering costs. It is estimated that approximately \$1.1 million should have been included in the original cost estimate to account for the "Original Concept" costs. Therefore, the savings may be better estimated as approximately \$500,000.</i>	\$500,000	
8.0	11-068001 IMP-7- 1.2/ 6.7 CONSTRUCT 4 LANE HIGHWAY Utilize Box culverts <i>May do part 1 of Alternative without part 2. Considerations include EIR concerns, additional right-of-way takes, raising of profile, culvert costs, and changed design. Pending consultant review (60 to 90 days; mid-October or mid-November, 2000).</i>		
1.3	11-06480K SD -15-M11.4/R31.5 CONST HOV/MANAGED LANES 4 Managed Lanes (3+1 or 2+2) Configuration <i>This alternative provides the only true long term solution to corridor congestion</i>	-\$80,000,000	\$254,726,000
4	11-06480K SD -15-M11.4/R31.5 CONST HOV/MANAGED LANES Pony Duenda Overcrossing and North County Fair Overcrossing <i>Partially Accepted - This Alternative will be implemented at Duenda and will reduce community disruption during construction and shorten construction time. Further analysis of the Del Lago design revealed that this overcrossing will need to be replaced for other reasons and there is no option to "Poney" the structure.</i>	\$3,115,000	
1	11-093160 SD -905- 5.7/ 12 CONST 6-LANE FWY Use Precast Structure in lieu of Cast-In-Place	-\$400,000	
4.1*	11-093160 SD -905- 5.7/ 12 CONST 6-LANE FWY Add a Southbound U-Turn Lane at the End of SR 905	-\$173,000	
5	11-093160 SD -905- 5.7/ 12 CONST 6-LANE FWY Eliminate all Southbound Trucks on SR 905		
7	11-093160 SD -905- 5.7/ 12 CONST 6-LANE FWY Close Siempre Viva Road and Detour Around Project	-\$490,000	

Caltrans 2000 VA Program Accepted Recommendations

Rec No	PROJECT	CONST \$	LCC \$
9	11-093160 SD -905- 5.7/ 12 CONST 6-LANE FWY	-\$990,000	
	Perform All Construction at Night		

TOTALS

76 # of Rec
76 # Accepted

CONSTRUCTION \$	Recommended	Accepted
TTL Positive	\$92,219,243	\$65,873,428
TTL Negative	-\$107,344,367	-\$107,998,360
TOTAL	-\$15,125,124	-\$42,124,932

LIFE CYCLE \$	Recommended	Accepted
TTL Positive	\$299,613,945	\$308,958,239
TTL Negative	\$0	\$0
TOTAL	\$299,613,945	\$308,958,239

Caltrans 2000 VA Program

Conditionally Accepted Recommendations

Rec No	PROJECT	CONST \$	LCC \$
21	2-325900 PLU-70- 41.5/ 46.3 Quincy Rehab ROADWAY REHAB & Upgrade Street Lighting <i>"(\$820,900) County; County needs to verify their lighting needs and desires. Caltrans may need to add some intersection lighting"</i>	\$40,400	
9	2-325900 PLU-70- 41.5/ 46.3 Quincy Rehab ROADWAY REHAB & Improve Drainage System on North Side of Main Street <i>"Need to ensure no flooding of businesses with reconstruction of the road, curbs and gutters."</i>	-\$103,000	
2	2-238020 SHA-299-/273/44 Redding Cuplet Create Shasta/Tehama one way Couplet (and provide Tehama counterflow east of Market)		
3	2-238020 SHA-299-/273/44 Redding Cuplet Create a EB counterflow on Eureka Way between Market and Pine Street		
TKR-4	3-441630 SAC-50- 12.3/ 23.1 HOV Lanes, Sunrise Blvd to El Dorado Detour to Folsom Blvd. at Night <i>Will be incorporated in staging plan.</i>	\$14,000	
1.5	3-0A6001 PLA-80- 14.3/ 40 OVERLAY Use thicker pavement on truck lane. (FG)	-\$635,560	\$1,470,340
1	3-368501 YOL-84- 18.4/R21.8 Widen Jefferson Blvd. Build a bascule ready abutment/simple span c/p/s bridge	\$7,000,000	
4.0*	4-228770 CC -4- 22.2/ 23.8 WDN & RECONSTRUCT (RAILROAD AV Over-Excavate for ADL Encapsulation	\$213,900	
M-3	4-439700 SCL-237- 8/ 9.6 MODIFY RTE 237/880 I/C (STAGE C)	\$670,000	
4.0	11-030100 SD -5-R30/R34.5 "CONTIGUOUS FWY, DIR CONN, TRK Permit Alternative Contractor Systems for MSE Wall <i>VA Alt. 4.0 was conditionally accepted, but only for other PGR wall types. Viaduct alternatives will not be considered by Caltrans</i>		

Caltrans 2000 VA Program

Conditionally Accepted Recommendations

Rec No	PROJECT	CONST \$	LCC \$
6.0	11-030100 SD -5-R30/R34.5 "CONTIGUOUS FWY,DIR CONN,TRK Provide Alternative Staging for Work at Coaster Station VA Alt. 6.0 will considered as a contingency in the event that NCTD/MTDB does not accept Caltrans' current staging plans		
1.0	11-068001 IMP-7- 1.2/ 6.7 CONSTRUCT 4 LANE HIGHWAY Do not pave frontage roads Savings only if paving is required (Right-of-Way advises that paving throughout is not required; however, Imperial County has not been contacted yet). Right-of-Way advises that frontage roads throughout the project are not required. Only two properties have been determined to be landlocked at present, and they will require legal access to be provided. North of the landlocked properties, landowners will be given compensation, which will include compensation for creation of access roads	\$1,136,606	
1.2	11-06480K SD -15-M11.4/R31.5 CONST HOV/MANAGED LANES 2+2 HOV Configuration Some stakeholders like this alternative as it avoids Managed Lane operating cost.	-\$20,000,000	\$9,167,500
7	11-06480K SD -15-M11.4/R31.5 CONST HOV/MANAGED LANES Revise Project Schedule Current Schedule is optimistic considering the number of structures involved. Need to apply resources to compress design and environmental time		
10	11-093160 SD -905- 5.7/ 12 CONST 6-LANE FWY Use Design Sequencing in lieu of Design-Bid Build Contract	\$0	
8	11-093160 SD -905- 5.7/ 12 CONST 6-LANE FWY "Upgrade Right-Turn Lane, Airway to SR 905"	-\$244,000	

TOTALS

16 # of Rec
16 # Conditionally
Accepted

CONSTRUCTION \$	Recommended	Accepted
TTL Positive	\$9,074,906	
TTL Negative	-\$20,982,560	
TOTAL	-\$11,907,654	

LIFE CYCLE \$	Recommended	Accepted
TTL Positive	\$10,637,840	\$0
TTL Negative	\$0	\$0
TOTAL	\$10,637,840	\$0